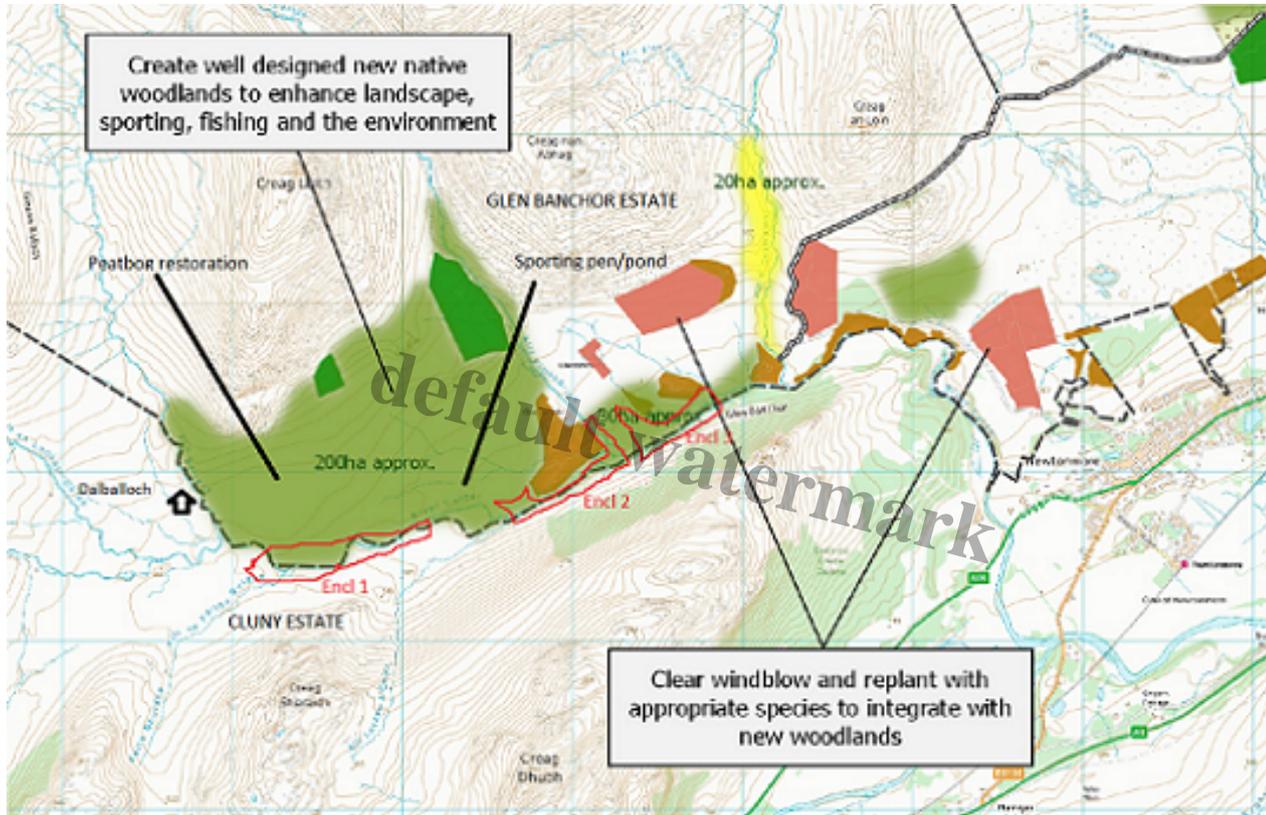


Conservation in Glen Banchor? Peat bog and woodland restoration (1)

Description



Annotated woodland plan for Glen Banchor showing a) area of peatbog restoration b) three new woodland exclosures extending across the River Calder onto the Cluny Estate c) the approx position of the sporting pond. Map Credit Cawdor Forestry. The woodland management plan contained in the latest Planning Application to build a track around Newtonmore ([see here](#)) bears little resemblance to what is happening on the ground in Glen Banchor, but then it was produced in 2018. However, it does help illustrate the interrelationships and various issues with current conservation initiatives in Glen Banchor. I will cover these in two posts, the first focusing on peat bog restoration, the second on woodland restoration in the glen and why both are likely to fail.



Looking east to the ruin at Dalballoch along the floor of Glen Banchor 2020. Note the bog cotton and bog myrtle in the foreground.

The western half of the lower ground in Glen Banchor is now predominantly peat bog, although some of it was farmed in the past. In 2018 it appears the Pitmain Estate was proposing to convert the area east of the Allt Balloch (on the far side of Dalballoch in the photo and the large green area at the top left of the map above) into new native woodlands for purposes that included "sporting" and "fishing". I was surprised by the woodland plan not just because I knew the area was bog but because when I passed by two years later there was evidence of recent peat bog restoration work:



The gaps between the vegetation, leaving narrow jagged lines of bare peat, show that it has been lifted and redistributed over the area and that some of the peat below may have been "re-profiled".

The restoration included a significant amount of water engineering, with peaty clumps of vegetation being used to split larger pools in two (as above) and in other places new pools created:



A trench pool, excavated by a digger, with further pools marked by heaps of sphagnum behind

Conservationists are no longer just trying to restore bogs in Scotland, they are trying to “improve” them to fit with what experts would like them to look like. This is gardening rather than re-wilding.

Having seen the uncontrolled use of ATVs and the large herds of red deer on the Pitmain and Glenbanchor estates ([see here](#)), I wondered how long this peatbog restoration would last. So last year I returned to have a look:



It was worse than I had anticipated. The edges of pools had in places already been eroded, perhaps by deer going for a drink, while elsewhere banks were in the process of breaking down:



Collapsing section of bank centre. Just to the right is another slab vegetation covered peat that is sliding down into the hill.

One possible explanation for this particular restoration failure is that deer legs slipped through the gaps between the “restored” clumps of vegetation prising them away from the slope (you don’t have to look far in most restoration schemes to see deer hoof marks in the open spaces). Another is that the water in the bog pool has eroded the peat from underneath.

Deer hoof marks were highly visible on the low vegetated areas that had been created between the pools.



The trampling has left bare peat which will be quickly eroded away by the new stream and further trampling

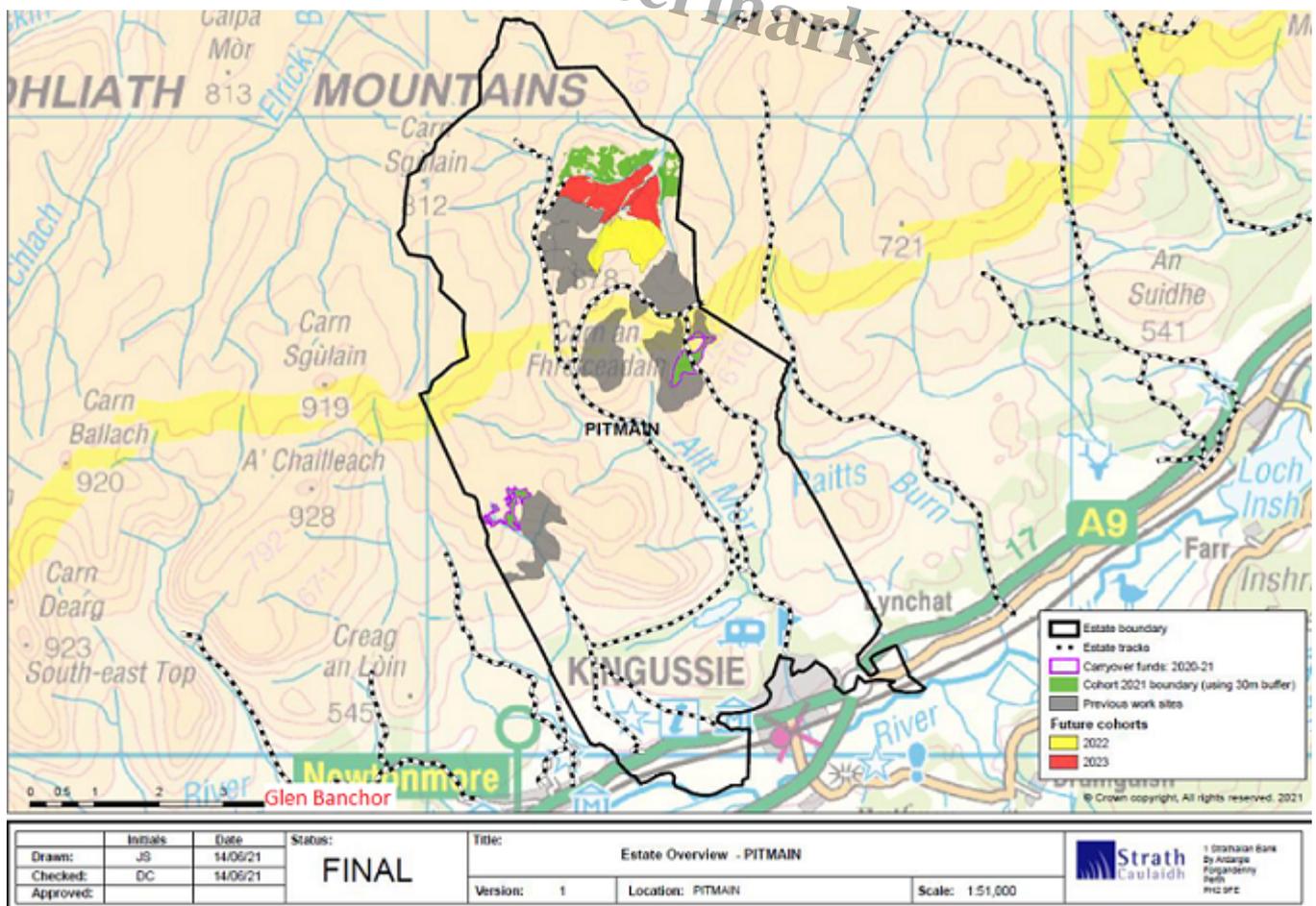
Whoever paid for this restoration work, it appears to have been a waste of money because the main reason why the bog is likely to have degraded in the first place, trampling and grazing by animals, has not been addressed.

Deer numbers and peat bog restoration in Glen Banchor

Both the Glen Banchor and Cluny estates, on the other side of the River Banchor, are part of the Monadhliath Deer Management Group (MDMG). This agreed a Strategic Deer Management Plan (SDMP) 2015-24 (see here). Key components of the plan were to reduce local deer densities, which 10 years ago in the eastern Monadhliath in winter could be over 25 per square kilometre, and to start restoring damaged peat bogs. Both were worthy objectives.

The Strathcauldih consultancy, which produced the SDMP, has since played lead role both in deer monitoring and peat bog restoration in the Monadhliath. Unfortunately, the MDMG has not updated its website since 2016 (see here) and information about peat bog restoration projects is extremely fragmented, so I have been unable to ascertain if Strathcauldih were involved in this scheme or who paid for it (it could possibly even have been fully funded by the estate)..

In 2021, however, peat bog restoration schemes became notifiable to planning authorities and Strathcauldih started submitting reports for the Monadhliath to Highland Council, including one for a project on another part of the Pitmain and Glen Banchor Estate (see here).



In 2017 the Jaffar family, who owned Pitmain, also brought Glen Banchor

The report, which I have referred to before when discussing Strathcauldha's proposals to restore peatland for BrewDog at Kinrara ([see here](#)), contains some very helpful information on deer in the MDMG suggesting that numbers and deer density have reduced significantly in the last 10 years:

A key aim of the SDMP was to reduce deer densities regionally over the course of the first 5 years of the plan. This aim was achieved by 2019, with all estates collaborating on the culls. Densities were successfully reduced to approx. 10 per km² across the Eastern Monadhliath.

Monadhliath DMG overall

Zone	Estate	Area (km ²)	Total count - winter 2004	Total count - winter 2013	Total count - late spring 2019	Deer density per km ² - 2004	Deer density per km ² - 2013	Deer density per km ² - 2019
Spean Bridge	N/A	283.2	2,928	3,013	2,752	10.3	10.6	9.7
Stratherrick	N/A	324.3	4,646	4,784	3,253	14.3	14.8	10.0
Strathnairn	N/A	178.3	2,696	1,576	667	15.1	8.8	3.7
Strathspey	N/A	706.4	11,214	9,611	7,169	15.9	13.6	10.1
MDMG - ALL	N/A	2,984.3	42,968	37,968	27,682	14.4	12.7	9.3

Estates participating in Phase 2

Zone	Estate	Area (km ²)	Total count - winter 2004	Total count - winter 2013	Total count - late spring 2019	Deer density per km ² - 2004	Deer density per km ² - 2013	Deer density per km ² - 2019
Spean Bridge	Braeroy	88.5	1,217	1,267	1,297	13.8	14.3	14.7
Strathnairn	Aberarder and Flichity	22.8	555	295	97	24.3	12.9	4.2
	Dunmaglass	45.8	336	326	107	7.3	7.1	2.3
	Farr and Glen Kyllachy	49.1	275	11	77	5.6	0.2	1.6
	Glenmazeran	32.2	1,122	774	319	34.9	24.1	9.9
Strathspey	Alvie and Dalraddy	41.0	936	656	685	22.8	16.0	16.7
	Balavil	23.5	192	206	501	8.2	8.8	21.3
	Dalmigavie	23.0	405	749	202	17.6	32.5	8.8
	Dunachton & Kinraig	37.5	698	853	223	18.6	22.8	5.9
	Glen Banchor and Strone	47.3	561	846	290	11.9	17.9	6.1
	Glenshero	138.3	2,867	2,264	1,628	20.7	16.4	11.8
	Kinrara	35.3	720	479	34	20.4	13.6	1.0
Pitmain	42.0	259	491	467	6.2	11.7	11.1	
		626.2	10,143	9,217	5,927	16.2	14.7	9.5

With deer moving around the Monadhliath according to season, the average figure of 10.1 for Strathspey, is likely to be more representative than the 6.1 deer per square km recorded for Glen Banchor at the time of the 2019 survey.

Strathcauldha's report also includes a statement on the impact of deer on peat bog restoration which I find rather less convincing:

The MDMG has already completed over 3,500ha of peatland restoration on the estates taking part in the project. Around 1,000ha of eroding peatland was treated, with the balance involving drain blocking. Sites were treated from autumn 2017 onwards, hence a considerable number have now had 1-3 growing seasons post-treatment. The range of techniques developed specifically for the conditions found in the Monadhliath area (see Appendix 1) appear to be resistant to deer impacts in most cases. Certainly, we have so far found very few locations where deer impacts seem likely to lead

to a failure of long-term restoration outcomes.

Comment.

Work to block drains should be uncontroversial and is unlikely to be affected by grazing or trampling. Restoration of bare peat surfaces is, however, another matter and why the techniques now being used in the Monadhliath should be particularly resistant to deer impacts is unclear: it would be helpful to improve understanding if the very few locations where restoration has failed due to grazing animals were made public together with the supporting evidence.



Peat erosion (and partial recolonisation by plants) on ridge between Carn Sgulain and Carn Ballach, Glen Banchor Estate. Photo Credit Louise Brimelow Nov 2021

Impacts are of course evident across most sites (e.g. heather browsing, hoof marks etc) but damaging impacts tend to be highly localised. Moreover, damaging impacts tend to arise from a combination of circumstances (e.g. treatment having been undertaken using inappropriately small or thin turves and then trampling impacts causing some further degradation etc). It is quite often difficult in many cases to be sure that deer impacts are in fact additive. Furthermore, work from a number of deer-related studies by SCL in the Monadhliath and similar areas (e.g. Cairngorms, Caenlochan) shows deer typically use peatland much less frequently than the other habitats present. This is

assumed to be because peatlands have poor-quality forage in relation to grasslands and heather moorlands. Even when deer are present in the general area the tendency will be for them to spend much of their time grazing on other habitats?•.

Comment

This reads like an excuse to allow landowners to keep deer numbers high. It fails to address two fundamental questions. The first is what caused the erosion of peat bogs in the first place? If not grazing animals, what?



Walkers clearly account for this eroded line across the peat but can't explain the eroded peat hags behind or the sheer extent of the eroded area. Carn Balloch, November 2021. Photo credit Louise Brimelow

Some erosion is as a result of natural processes while both All Terrain Vehicles and walkers play a role. But none of this can explain the 1000s of hectares of damaged peat bog in Scotland or deer wallows.

Second, Strathcauldhead's argument also misses the main point. Peat bog are poor in nutrients and so is their vegetation, so it is obvious that deer will graze elsewhere where and when they can. But, just as

deer will browse trees when hungry, so they may also browse bog vegetation. Moreover, they also cross bogs to move between areas of better grazing and will nibble anything that is palatable on the way. It is wrong therefore to imply deer grazing is not an issue. The key question is what density of deer is compatible with peatbog restoration within a given deer range?

So far most of the organisations involved in peatland restoration projects appear to have avoided this question, apparently through fear of challenging sporting estates.

Although damage by deer is part of the risk management statement for the Pitmain peat bog restoration, the risks are downplayed:

Hazard Categories	Identified Hazards and Impact on Permanence of Improved Condition	Risk Rating			Mitigation Strategy	Risk Rating		
		L	C	R		L	C	R
Restoration Activities	Choice of restoration method is inappropriate for the conditions, leading to a failure to re-vegetate or re-wet parts of the site	5	4	20	Experience of consultants and contractors, along with lessons learned from the first few years of the MDMG project, make this unlikely to happen other than in localised areas	2	4	8
Restoration Activities	Execution of restoration approach is poor, leading to a failure to re-vegetate or re-wet parts of the site	5	4	20	Experience of consultants and contractors, along with lessons learned from the first few years of the MDMG project, make this unlikely to happen other than in localised areas	2	4	8
Management Activities	Deer trampling impacts are severe enough locally to cause donor turves to be dislodged or dams to burst, leading to a failure to re-vegetate or re-wet parts of the site	3	4	12	Experience from the first few years of the MDMG project shows this to be highly unlikely other than in localised areas; surveillance is in place (regular monitoring) and targeted local culls can be taken if required; regional culling mechanism also in place via MDMG	2	4	8
Management Activities	As above, but for domestic livestock (e.g. sheep)	3	4	12	As above	2	4	8

And there are not proper mitigation measures in place:

Should deer be clearly implicated in the failure of restoration work at a significant scale on the site then the estate will consider taking a more targeted cull from in and around the restoration site. In the first instance this should simply involve taking more of the planned cull from this area. In due course, should this not have the desired effect, the estate should consider culling additional animals from the area.

Comment

This is a non-binding commitment. Given also how Strathcauldih emphasise in the SDMP that deer move around the Monadhliath it would appear insufficient. The key point is there is no provision that should the peatland restoration fail due to grazing and trampling, then the Scottish Government will get its (and our) money back.

In the Pitmain Prior Notification there are some photos of peat bog restoration techniques, before and after:



Now Strathcauldih may have had nothing to do with the peat bog restoration in Glen Banchor â?? most of their work appears to be on higher ground. But the photos of how the Glen Banchor bog appeared last year were more like the top line of photos than the bottom: evidence that the restoration work has failed.

Some of this is undoubtedly due to poor restoration techniques:



Removal of vegetation to cover areas of bare peat is useless if new areas of peat are left open to the air and sunlight.

The contractor has clearly not be sent back to repair the damage. But much of the failure also appears attributable to trampling and grazing pressure:



Why has vegetation failed to relonise bare areas of peat two years after restoration if not because of grazing and trampling? Photo 2022



Patch which may have been excavated and not restored, although there were plentiful signs of trampling in 2020

Other livestock grazing and peat bogs



Photo July 2021

At times significant numbers of sheep are still grazing in upper Glen Banchor on the more fertile ground by the river. They are free to wander onto to the bog and although I have not seen them there they may be responsible some of the damage.

Back in 2014 Scottish Natural Heritage did publish some advice on grazing which included this for livestock ([see here](#))

Stocking Density

Bogs and fens may have a range of different habitats. The overall stocking density is determined by the proportions of habitats in the area to be managed. In general, it is best to graze bog habitats in conjunction with adjacent semi-improved/improved grassland which gives the stock a choice of forage, helps maintain stock condition and helps prevent the bog being more than lightly grazed. The figures below are given as a general guide.

Open bog 0.02 LU/ha/yr

Fen/swamp 0.1 LU/ha/yr

Wet purple moor grass heath 0.25 LU/ha/yr

Semi natural grassland 1 LU/ha/yr

One livestock unit is equivalent of one cow, 0.15 ewes. You may need to consider grazing/trampling pressure from wild deer in your calculations.

Note the last line which tells people they might need to consider deer too but provides no actual guidance as to numbers!

Two Livestock Units, i.e. c13 sheep, per square kilometre of peat bog looks very high to me. That density was in line with other policy thinking at the time that claimed native woodland could regenerate when deer densities reached 10 per square kilometre when we know now two deer per square km is more like it.

This high number also appears incompatible with other research ([see here](#)) which showed that:

â??Bog vegetation is sensitive to trampling but Sphagnum species are especially sensitive. Repeated visits to monitoring points, even if only once a year, can kill the Sphagnum sward in the space of two or three visits, or prevent Sphagnum recovery at such locations on restoration sites.â?•

Try penning 13 sheep into a square kilometre of bog and stopping them from crossing the same bit of sphagnum more than a couple of times in a year!

Peat bog restoration and sporting land-use in Glen Banchor



The topmost enclosure includes areas of bog, as evidenced by the cotton grass, although when I visited in 2020 I could not see evidence of tree planting there.

Whatever the number of sheep, add those to the 6.1 â?? 10.1 deer per square kilometre and it should be obvious there is significant grazing pressure in Glen Banchor. An acknowledgement of that problem are the three new exclosures which have been created along the River Calder (see map above). It appears they were necessary because the estate was not prepared to bring down the number of red deer further.

An interesting question for conservationists is why the new woodland planting merited protection but not the peat bog restoration adjacent to it?



New sporting pen enclosure note the blue game bird feeder near enclosures 1 and 2

This sporting pen is consistent with the Pitmain Estate's Woodland Management Plan of 2018 which described the woodland that was proposed here as being partly for sporting use. The peat bog restoration nearby didn't prevent the estate from trying to plant trees, all of which have died, or from excavating a pool in the bog for sporting purposes.



Close up of pool

This illustrates the need for cross-compliance: why should the public fund peat bog restoration if landowners are allowed to undertake destructive land practices on areas of bog just next door?

High in Gleann Ballach, upstream of the peat bog, is another illustration of why peat bog restoration is a waste of time unless land management for sporting purposes is brought under much tighter control:



Muirburn on the slopes of Creag Liath viewed from Carn Dearg. Noted the eroded peat below the muirburn on the left.

Muirburn not only prevents peat from developing, it promotes water run off. While peat bogs generally absorb water, if water starts flowing into or over a peat bog it will start to create erosion gullies and can precipitate peat slides. Such phenomena occur naturally but become unnatural and their effects accentuated where there is muirburn.

The policy point for the Scottish Government and Cairngorms National Park Authority is why would we be paying any public money to Pitmain while they continue to manage the land in a way that is destructive to peat bogs?

What needs to happen?

Peat bog restoration has generally been presented by the Scottish Government and conservation interests uncritically as a good thing, helping to reduce carbon emissions and flooding. With the Scottish Government paying for most of it, it is an easy way for sporting estates â?? who have been responsible directly and indirectly for much of the damage â?? to present their environmental credentials. Unfortunately, as managed at present, there appear no requirements for them to change how they manage the land outside of restoration areas.

Whoever paid for the peat bog restoration in Glen Banchor, it illustrates all the contradictions of current policy with grazing and muirburn continuing uninterrupted along with the development of new sporting infrastructure, such as tracks and duck ponds.

Unless all that sporting use is controlled, in ten years time the state of the environment in Glen Banchor as a whole may well be worse, not better, than it is just now even if the peat bog restoration withstands the grazing pressure and trampling longer than I predict. In my next post I will show how the woodland planting appears just as misconceived.

Category

1. Cairngorms

Tags

1. CNPA
2. conservation
3. Deer
4. peatland restoration
5. sporting estates

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Author

nickkempe